

REMARKS

Status of claims and specification

Claims 6, 7, 14, 17, 19, 26, 34, 38, 44-47, 49, 101-105, 107-109, 145-150 and 159-163 have been canceled. Claims 1-5, 18, 21, 27-29, 35, 39-43, 100 and 106 have been amended. New claims 164-168 have been added. No new matter has been added. Support for the claim amendments and new claims may be found, for example, in the original claims (e.g., original claims 1, 21-25, 34, 38, 100, 145, 159, 162)), at page 19, lines 1-16, and in Figures 5G and 5H, which discuss and illustrate tapered fluid channels.

The amendments to the specification were made to correct grammatical and usage errors and do not introduce any new matter.

Reconsideration and withdrawal of the present rejections in view of the amendments and comments presented herein are respectfully requested.

Section 102 rejections

Claims 1-4, 6-8, 15, 17, 21, 22, 24-26, 34, 40, 47-49, 100, 102-106, 109, 145-147, 150, 159, 160 and 162 were rejected under Section 102(b) as being anticipated by Zanzucchi et al. (U.S. 5,643,738). The independent claims recite tapered fluid channels. Zanzucchi et al. do not teach the use of such channels, therefore the claims are not anticipated.

Claims 1-4, 6-9, 15, 17-19, 34, 35, 38-40, 47, 48, 145-150 and 159-162 were rejected under Section 102(e) as being anticipated by Pfost et al. (U.S. 6,485,690). The Examiner states that Pfost discloses tapered channels in column 18, lines 38-41. Pfost et al. state that “the micro-

sized openings in the plates and layers can also be tapered in order to provide secure sites for formation of capillary barriers or valves. A tapered opening 720 for this purpose is provided in plate 714 in FIG. 56.” This opening appears to be in fluid communication with a single reaction cell. In contrast, the claims recite that the tapered fluid channels are in fluid communication with a plurality of reaction cells. Therefore, Pfost et al. do not anticipate the claims.

Claims 1, 7-9, 17, 20-24, 26-28, 34, 40-42, 47, 150, 159, 160 and 162 were rejected under Section 102(e) as allegedly anticipated by Sheppard, Jr. et al. (US 6,143,247). Sheppard, Jr. et al. do not disclose tapered fluid channels. Therefore, the claims are not anticipated by this reference.

In view of the claim amendments and comments presented above, Applicants respectfully request withdrawal of all rejections under Section 102.

Section 103 rejections

Claims 5 and 14 were rejected as being unpatentable over Pfost et al. (6,485,690) in view of Demers et al. (5,840,256), contending that it would have been obvious to combine the array size and spacing of Demers with the device of Pfost. The claim from which Claims 5 and 14 depend recites tapered fluid channels in fluid communication with a plurality of reaction cells. As discussed above, Pfost et al. do not disclose tapered channels in fluid communication with a plurality of reaction cells. This deficiency is not cured by Demers et al. Therefore, Claims 5 and 14 are not obvious over this combination of references.

Claim 16 was rejected as being unpatentable over Zanzucchi et al. (5,643,738) in view of Stabile et al. (5,872,623). The Examiner alleges that it would have been obvious to combine the window array of Stabile with the device of Zanzucchi. The claim from which Claim 16 depends recites tapered fluid channels in fluid communication with a plurality of reaction cells. Since this feature is not disclosed in either reference, Claim 16 cannot be obvious in view of the cited references.

Claims 107 and 108 were rejected as being unpatentable over Zanzucchi et al. (5,643,738) in view of Sheppard, Jr. et al. (6,143,247). The Examiner asserts that it would have been obvious to combine the immobilization teachings of Sheppard with the device of Zanzucchi. The claim from which Claims 107 and 108 depend recites tapered fluid channels in fluid communication with a plurality of reaction cells. Since this feature is not disclosed in either reference, Claims 107 and 108 cannot be obvious in view of the cited references.

Claims were rejected 43-45 as being unpatentable over Pfost et al. (6,485,690) in view of Stabile et al. (5,872,623). The Examiner states that it would have been obvious to combine the teachings of Sheppard with the device of Pfost. The claim from which Claims 43-45 depend recites tapered fluid channels in fluid communication with a plurality of reaction cells. As discussed above, Pfost et al. do not disclose tapered channels in fluid communication with a plurality of reaction cells. This deficiency is not cured by Stabile et al. Therefore, Claims 43-45 are not obvious over this combination of references.

Claim 29 was rejected as being unpatentable over Sheppard, Jr. et al. (6,143,247) in view of Zanzucchi (6,118,126). The Examiner contends that it would have been obvious to combine

the polymer membrane from Zanzucchi with the device of Sheppard. The claim from which Claim 29 depends recites tapered fluid channels in fluid communication with a plurality of reaction cells. Since this feature is not disclosed in either reference, Claim 29 cannot be obvious in view of the cited references.

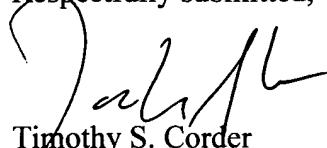
In summary, none of these references, either alone or in combination, teach or suggest the use of tapered fluid channels in fluid communication with a plurality of reaction cells as recited in the amended claims. Because the independent claims are novel and non-obvious, the dependent claims are necessarily novel and non-obvious.

Conclusion

In light of the foregoing amendments and remarks, Applicants respectfully submit that the present application and all claims are in condition for immediate allowance and early notice to such effect is earnestly solicited. If, in the opinion of the Examiner, a phone call may help expedite prosecution of this application, the Examiner is invited to contact the undersigned representative at (512) 542-8446.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,



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